

In the Specification

Please amend the specification of this application as follows:

Insert the following paragraph after page 4, line 13:

--Figure 2D is an illustration of an alternative method that can be used when the duration of the synthesized tone is shorter than the analysis tone;--

Rewrite paragraph [24] as follows:

--[24] In a second example, in order to synthesize a tone having a duration of 80ms and pitch of 1000Hz, then the synthesized waveform will have a $D_s = (8000 * 0.080) = 640$ samples. 640 samples. For this waveform, there are 80 synthesis time-marks that include the set of samples $T_s = \{8, 16, 24, 32, \dots, 632, 640\}$. Because the synthesis duration is greater than the analysis duration, Type-A processing is applied on the T_{a1} time-marks and Type-B processing is applied in T_{a2} time-marks. The synthetic music waveform period I_s is extracted for the analysis waveform located at position index I_a where :

$$K_{s1} = T_s / T_a \quad \text{here } T_a=16 \text{ and } T_s=8$$

$$I_a = K_{s1} * I_s$$

$$I_a = 0.5 * I_s \quad \text{for } ia=0..Na1-1$$

and

$$K_{s2} = (T_s * Da_2) / (Ta * Ds_2) \quad \text{here } Da_2=30\text{ms} \text{ and } Ds_2=60\text{ms}$$

$$I_a = K_{s2} * (I_s - Na1/K_{s1})$$

$$I_a = 0.25 * (I_s - Na1/K_{s1}) \quad \text{for } Ia=Na1..Na2-1--$$

Rewrite paragraph [35] as follows:

--[35] Advantageously, the total number of operations is only four multiply multiplies and one addition per synthesis sample for the interpolation. When the interpolated samples are weighted and combined as shown in Figure 4, then the total number of operations

per final synthesis sample is doubled but still modest: eight multiplies and two additions.--

Rewrite paragraph [39] as follows:

--[39] In step 504, for each note an annotated analysis waveform is accessed as defined by the melody file. A relationship between the set of analysis time marks and the set of synthesis time marks is then computed according to the duration of each. If $D_s > D_a$, then type A processing will be used on the attack portion and type B processing will be used on the decay portion (step 506). If $D_s \leq D_a$, then type A processing will be used on the entire synthesis waveform (step 507). Coefficient K_s is calculated for type A processing, while coefficients K_{s1} and K_{s2} are calculated for type B processing.--

Rewrite paragraph [42] follows:

--[42] In an embodiment that includes processing to compensate for the fact that generally the exact position of the synthesis period does not correspond to a sample boundary, as described above, an interpolation calculation is included in step 510 to compute synthesis period $I_s[m-1]$ and in step 512 to compute synthesis period $I_s[m]$.--

Rewrite paragraph [50] as follows:

--[50] The digital waveform and the duration information and the two sets of timing marks are then stored in a file as an annotated analysis waveform for later use. Step 604 initiates a repeat of steps 600 and 602 for another set of instruments if desired.--